EDUCATIONAL FACILITIES CROSS-EVALUATION IN COMPLIANCE WITH SUSTAINABLE DEVELOPMENT GOALS (SDG) 4.A.1

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The Sustainable Development Agenda 2030 promotes healthy, inclusive, and sustainable communities through equitable, lifelong, and high-quality education. The UN's SDG 4a.1 evaluates schools' electricity, internet connectivity for education, computers, disabled facilities, clean drinking water, gender-segregated sanitation, and basic handwashing facilities. District III, Bacoor, Cavite schools received a two-star Three-Star Approach for Water, Sanitation, and Hygiene (WASH) in Schools rating after an assessment found shortcomings in WASH services. Additionally, the computer-to-student ratio is low, making classroom use difficult. School closures due to poor infrastructure emphasize the need for safe and satisfactory educational facilities to improve teaching and learning, in line with SDG 4.

To address these concerns, study examined educational facilities' SDG 4.a.1 compliance, concentrating on 2030 goals. Descriptive research was used to cross-evaluate educational facilities in District III, Bacoor, Cavite, in 2022–2023. Selected administrators and teachers with facility management knowledge participated. Study analyzed electricity, internet, computers, classrooms, drinking water, handwashing facilities, and safety using the PDSA cycle. Facility management was hampered by limited infrastructure, resources, and budget. Based on findings, a development strategy was created to improve educational facilities and SDG 4.a.1 compliance, emphasizing the need for government and stakeholder participation.

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ABSTRACT

The Sustainable Development Agenda 2030 promotes healthy, inclusive, and sustainable communities through equitable, lifelong, and high-quality education. The UN's SDG 4a.1 evaluates schools' electricity, internet connectivity for education, computers, disabled facilities, clean drinking water, gender-segregated sanitation, and basic handwashing facilities. District III, Bacoor, Cavite schools received a two-star Three-Star Approach for Water, Sanitation, and Hygiene (WASH) in Schools rating after an assessment found shortcomings in WASH services. Additionally, the computer-to-student ratio is low, making classroom use difficult. School closures due to poor infrastructure emphasize the need for safe and satisfactory educational facilities to improve teaching and learning, in line with SDG 4.

To address these concerns, study examined educational facilities' SDG 4.a.1 compliance, concentrating on 2030 goals. Descriptive research was used to cross-evaluate educational facilities in District III, Bacoor, Cavite, in 2022–2023. Selected administrators and teachers with facility management knowledge participated. Study analyzed electricity, internet, computers, classrooms, drinking water, handwashing facilities, and safety using the PDSA cycle. Facility management was hampered by limited infrastructure, resources, and budget. Based on findings, a development strategy was created to improve educational facilities and SDG 4.a.1 compliance, emphasizing the need for government and stakeholder participation.

Keywords
SDG 4a.1; Apeirian; Three-Star Approach; WASH; PDSA

Introduction

The Sustainable Development Agenda 2030 is a comprehensive and complete framework that places great importance on inclusivity and ensuring that no one is excluded. Education, a fundamental component of SDG 4, seeks to offer high-quality, fair, and lifelong learning prospects to all individuals, hence playing a crucial responsibility in promoting balanced, wide-ranging, and strong associations. Although progress was made in reaching universal primary education under the Millennium Development Goals, SDG 4 establishes a more ambitious benchmark, acknowledging the transformative power of education in promoting larger advancements towards sustainable development.

The Department of Education (DepEd) aligns its approach to educational facilities with the United Nations' (UN) Sustainable Development Goal 4 (SDG 4) 4.A.1. This goal focuses on making education accessible and of excellent quality by creating conducive learning environments and promoting educational achievement through the provision of suitable educational facilities.

Improving educational facilities is a key focus of the United Nations' Sustainable Development Goal 4a.1 (SDG 4a.1), which aims to increase the percentage of schools that have access to: (a) electricity; (b) Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as defined by the WASH indicator definitions) are SDG 4.A.1 indicators (PSA, 2023).

Educational institutions have a vital responsibility to provide an optimal learning environment that promotes effective teaching and learning. This requires an ability to adjust to evolving instructional methods and school arrangements, while considering the increasingly dynamic, connected, and community-oriented nature of education.

Educational facilities are seen essential to a school since they act as facilitators to performance that reserve as addition to hosting the educational institution.

India has accomplished important development concerning putting the "Education For All" plan into action. Because of the implementation of several important programs and regulations, all children now have access to free and compulsory education Pandey (2018).

But still, according to the Unified District Information System for Education Plus (UDISE+), more than 6,000 schools in India still require adequate buildings, according to Bhattacharaya (2021). Only 77.34% of schools have electricity, and 6,465 schools

lack adequate facilities. Even though the majority of schools have functional facilities for both boys and girls, 29,967 schools lack access to drinking water on school property, and 10% of schools lack handwashing stations, creating unhygienic circumstances for the students.

The same is true in the Philippines, according to Navarro (2022), senior research at the Philippine Institute for Development Studies (PIDS), the Philippines must increase its spending regarding the educational facilities the nation as a whole is still falling behind., affecting student learning outcomes. When compared to other countries, there were significant gaps in facilities that were highlighted. Another infrastructure limitation in Philippine educational facilities is the lack of access to electricity. Unfortunately, the nation is one of many in the region that still lacks widespread access to electricity for educational purposes.

This statement was reinforced by Vice President Sara Duterte during her last speech "Basic Education Report 2023 Speech" on January 30, 2023, when she stated that the biggest problem in education of the country is absence of the infrastructure and resources in school to sustenance ideal instruction. She went on and say that Philippine growing student population necessitates the construction, repair, and maintenance of school infrastructure.

School facilities should be designed, constructed, and maintained to promote a positive learning environment for both students and teachers.

Lamentably, the lack of adequate facilities and resources is a pressing issue plaguing the Philippine educational landscape, particularly in remote areas. This predicament is widespread, affecting a substantial number of schools nationwide.

According to a study of DepEd (Department of Education), a staggering ten thousand (10,000) educational institutions in the country do not have availability of potable water, while another five thousand (5,000) are without electrical energy. The absence in basic necessities not only affects the quality of education received by students and teachers, but also hinders their ability to thrive. Inadequate textbooks, instructional materials, and classrooms make it challenging for children to learn effectively in most schools, regardless of location. This pressing issue is not limited to rural areas; it is also prevalent in urban centres.

Many developing countries, like the Philippines, are confronted with the daunting task of dealing with inadequate resources and amenities in their educational institutions. In sub-Saharan Africa, for instance, an estimated 30 million children are deprived of access to primary education. Furthermore, the lucky few who are able to attend school encounter similar hardships as their Filipino counterparts, such as the scarcity of essential utilities like water and electricity, and substandard classroom conditions.

With cited situation, the research paper intends to have a cross-evaluation of educational facilities in compliance with SDG 4.A.1.

In District III, City of Bacoor, Cavite where this study was conducted the researcher observes that the school lack of these facilities for Water, Sanitation, and Hygiene.

The Technical Working Group (TWG) recently awarded District III, City of Bacoor Cavite a rating of two stars in their Three-Star Approach for Water, Sanitation, and Hygiene (WASH) in schools. This means that the schools within the district must make significant improvements to their infrastructures also the procedures in order to achieve the standard of the national level. Additionally, the school's Enhanced Basic Education Information System (EBEIS) report revealed that there are only 24 computers available for a student population of 8,352. This falls far below the recommended 4 to 5 students per computer for effective classroom usage, as suggested by experts.

Ensuring that every Filipino has access to education is essential to enabling each one of them to understand its capability and make valuable contributions in country's' progress. Conversely, inadequate facilities (i.e., a lack of secure, hygienic, and suitable buildings and grounds) are one of the reasons for a school's closure.

The teaching and learning processes will be supported with accessibility and availability of the adequate, secure, and acceptable learning resources, which will ultimately raise the standard of basic education.

This prompted the researcher to make a study on "Educational Facilities Cross Evaluation in Compliance to Sustainable Development Goals (SDG) 4.a.1" that focuses on educational facilities alignment with the principles and targets of SDG 4.a.1. The purpose the study was to evaluate school's adherence to SDG 4.a.1 specifically within set timeline of 2030.

Materials and Methods

The study employed the method of descriptive research to facilitate the presentation as well as evaluation of the research. A descriptive research design can be described as the "procedures for collecting, analysing, and reporting research" (Creswell, 2012, p. 627).

The selected elementary schools are all mega schools based on the total number of enrolled pupils: Queen's Row Elementary School 8, 352, Molino Elementary School 2,889, and Gawaran Elementary School 4,000 and number of teachers. The researcher used purposive sampling in the selection of the respondents of the study, a total of 23 school administrators with school coordinator such as Physical Facilities Coordinator, Disaster Risk Reduction Management (DRRM) Coordinator, Wash In School

(WinS) Coordinator, Waste Management Coordinator and Master Teachers who implemented the programs from the selected elementary schools were considered as part of the study. While the total number of elementary school teachers from three (3) selected elementary schools were 416.

Two sets of survey instrument were used: The first instrument was the school's instrument used to determine the status of the school educational facilities in terms of: Electricity, Internet Access, Computer Access, Number of classrooms, Water Indicator, Basic Hand Washing Facilities, and School Safe Learning Facilities Condition.

The second instrument used was to determine the compliance of the school facilities with SDG 4.a.1 in terms of: Electricity, Internet, Computer, Adapted infrastructure and materials for students with disabilities, Basic drinking water, Single-Sex Basic Sanitation Facilities, and Basic Hand Washing Facilities.
A structured interview outline was utilized throughout the group discussion to ascertain the specific concerns and difficulties faced by this institution in successfully handling its physical structures and amenities.

The researcher conducted the and data analysis interpretation with the assistance of the school statistician. However, additional analytical processing of the data will be carried out following the final presentation/defense of the work.

Results and Discussions

This deals with the presentation, analysis and interpretation of the data gathered for the study. It answers all the aforementioned questions raised in this study.

1. **What is the assessment of the respondents on the status of the educational facilities in terms of: Electricity, Internet Access, Computer Access, Number of classrooms, Basic Drinking Water, Basic Hand Washing Facilities, and School Safe Learning Facilities?**

Table 2 presents the assessment of the respondents on the status of the educational facilities in terms of: Electricity, Internet Access, Computer Access, Classrooms, Basic Drinking Water, Basic Hand Washing Facilities, and School Safe Learning Facilities.

The indicators were based on the assessment tool used by the schools in determining educational facilities. The indicators were validated and approved by the school principal of the three (3) selected elementary schools and other experts.

Based on the results, the two groups of respondents, the school administrators and teachers from the three (3) selected schools, namely: Queens Row Elementary School (School-1), Molino Elementary School (School-2), and Gawaran Elementary School (School -3) from District III, City of Bacoor, Cavite indicated limited access or average level of educational facilities.

Table 1
Assessment of the Respondents on the Status of the
Educational Facilities

Indicators	School 1				School 2				School 3			
	School Adm.		Teacher		School Adm.		Teacher		School Adm.		Teacher	
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI
1. Electricity Access of Electricity (24 hours or less)	2.00	L	2.20	L	2.30	L	2.20	L	2.10	L	2.25	L
2. Internet Access Functionality of connectivity	1.65	P	1.60	P	1.55	P	1.50	P	1.66	P	1.50	P
3. Computer Access	2.33	L	2.00	L	2.30	L	1.80	L	2.20	L	1.85	L

Indicator												
Ratio of 1:4 to 5 computer per student											
4. Classrooms **Less than 45 student per room**	1.66	P	1.50	P	1.67	P	1.60	P	1.66	P	1.50	P
5. Basic Drinking Water **Access to safe drinking water at no cost at all times.**	1.67	L	1.50	P	1.69	L	1.60	P	2.30	L	1.55	P
6. Basic Hand Washing Facilities **With functional group handwashing facility with soap**	2.30	L	2.33	L	2.30	L	2.26	L	2.33	L	2.30	L
7. School Safe Learning Facilities **Quality and safety standards**	2.00	L	1.60	P	1.70	L	1.55	P	1.80	L	1.66	P
Over-all Weighted Mean	1.94	L	1.82	L	1.90	L	1.79	L	2.01	L	1.80	L
Descriptive Interpretation	**Limited Access or Average Level**				**Limited Access or Average Level**				**Limited Access or Average Level**			

Legend: 2.34 – 3.00 – Basic (Access/High), 1.67 – 2.33 - Limited (Access/Average), 1.00 – 1.66- Poor (Access/Low)

On Electricity. Both the school administrators and teachers indicated *limited access of electricity*. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 2.00 and 2.20; School -2 administrators and teachers was 2.30 and 2.20; School -3 administrators and teachers was 2.10 and 2.25.

There is a problem of unstable electricity and fluctuations from time to time. Inadequate or unstable supply of electricity can frequently result in energy rises, increases and fluctuations in voltage. Electricity failures or outages may result in significant disruptions at educational institutions. Loss of information and decreased productivity can both result from this. Furthermore, aside from the associated annoyance, outages with electricity can potentially jeopardize sensitive electrical equipment.

On Internet Access. The school administrators and teachers agreed on the *poor internet access*. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.65 and 1.60; School -2 administrators and teachers was 1.55 and 1.50; School -3 administrators and teachers was 1.66 and 1.50.

On Computer Access. The school administrators and teachers indicated limited computer access. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 2.33 and 2.00; School -2 administrators and teachers was 2.30 and 1.80; School -3 administrators and teachers was 2.20 and 1.85.

According to DepEd Data Bits, the past records of schools with usable PCs and internet access from 2016 to 2020, Over the course of five years, there was a steady rise in enrollment at all levels, with the exception of Elementary School. While the numbers at JHS and SHS steadily grew, Elementary School's enrollment only experienced growth from 2016 to 2019, followed by a decrease in the subsequent years.

Yet, the Department remains committed to equipping schools with computer packages and other ICT tools through the DepEd Computerization Program. Furthermore, DepEd is working towards connecting more schools to the internet and incorporating more teachers into the digital realm.

On classrooms. The school administrators and teachers agreed on the poor number of classrooms. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.66 and 1.50; School -2 administrators and teachers was 1.67 and 1.60; School -3 administrators and teachers was 1.66 and 1.50.

As on the PIDS research, although attempts have been made to decrease congestion in educational institutions, there is a notable existence of spatial imbalance in the ratio of students to classrooms. Furthermore, the insufficient school infrastructure in distant areas, along with a rise in student enrollment and deterioration, necessitates the construction of additional classrooms. Ensuring that all students have access to quality and safe learning settings is of utmost importance.

Basic Drinking Water. The school administrators indicated limited or average level, while the teachers indicated poor level on the service of basic drinking water. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.67 and 1.50; School -2 administrators and teachers was 1.69 and 1.60; School -3 administrators and teachers was 1.80 and 1.66.

On Basic Hand Washing Facilities. The school administrators and teachers indicated limited on basic hand washing facilities. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 2.30 and 2.33; School -2 administrators and teachers was 2.30 and 2.26; School -3 administrators and teachers was 2.33 and 2.30.

On School Safe Learning Facilities. The school administrators indicated limited or average level, while the teachers indicated poor level on school safe learning facilities. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 2.00 and 1.60; School -2 administrators and teachers was 1.70 and 1.55; School -3 administrators and teachers was 2.30 and 1.55.

The results indicated that both the school administrators and teachers indicated limited access of electricity, computer, and basic hand washing. Both the school administrators and teachers agreed on the poor internet access and number of classrooms; however, the school administrators indicated limited or average level while the teachers indicated poor level on the service of basic drinking water, and school safe learning facilities.

Adoracion Navarro, a senior research fellow at the Philippine Institute for Development Studies (PIDS, 2023), stated that "A good learning environment is a good investment. It results in better student learning outcomes today and higher productivity of workers in the future. It is an important component of human capital development, which in turn is an important driver of endogenous economic growth".

Navarro highlighted the substantial deficiencies in WASH (water, sanitation, and hygiene) infrastructure, which become more apparent when compared to other nations.

One such limitation in the facilities of Philippine schools is the absence of electricity connectivity. Regrettably, the country in this region is still one of the nations that have not yet attained universal access to electricity in schools.

He stated that this difficulty is further complicated by the necessity to enhance the electricity connections of schools in order to moderate fluctuations in electricity current and fulfill the criteria for digital learning.

Moreover, there were significant disparities in access to technological innovations or information and communication technologies.

The computer and internet access rates in Philippine schools were significantly lower compared to those in many surrounding nations. The efforts to enhance access rates have also been hindered by inadequate implementation of initiatives for information and communication technology (ICT) infrastructure in schools.

Navarro said that the public-private partnership (PPP) approach may be reconsidered as a solution to fulfill future demand for school infrastructure. However, it is important to have a thorough evaluation of the requirements and possibilities for investment and financing.

2. What is the assessment of the respondents on the school's educational facilities compliance with the SDG 4.a.1 in terms of: Electricity, Internet for pedagogical use, Computer for pedagogical use, Adapted infrastructure and materials for students with disabilities, Basic Drinking Water, Single-Sex Basic Sanitation Facilities, and Basic Hand Washing Facilities?

Table 3 presents the assessment of the respondents on the school's educational facilities compliance with the SDG 4.a.1 in terms of: Electricity, Internet for pedagogical use, Computer for pedagogical use, Adapted infrastructure and materials for students with disabilities, Basic Drinking Water, Single-Sex Basic Sanitation Facilities, and Basic Hand Washing Facilities.

Table 2
Assessment of the Respondents on the School's Educational Facilities Compliance with SDG4.a.1

Indicators	School 1				School 2				School 3			
	School Adm.		Teacher		School Adm.		Teacher		School Adm.		Teacher	
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI
1. **Electricity** Consistent and easily accessible power sources that provide sufficient and enduring utilization of ICT infrastructure.	1.50	P	1.40	P	1.60	P	1.50	P	1.50	P	1.45	P
2. **Internet for pedagogical purposes** Students can use the internet to improve learning.	1.60	P	1.62	P	1.58	P	1.50	P	1.64	P	1.53	P
3. **Computer for pedagogical purpose** Use of computers helps with the instruction of courses or to promote self-directed teaching and learning needs.	1.45	P	1.40	P	1.30	P	1.60	P	1.40	P	1.65	P
4. **Adapted Infrastructure and materials for students with disabilities** Everyone, including those with disabilities, can use school facilities and learning materials.	1.66	P	1.50	P	1.64	P	1.60	P	1.50	P	1.40	P
5. **Basic Drinking Water** A working drinking water supply on or near the site and water	1.67	L	1.50	P	1.45	P	1.80	L	2.00	L	1.55	P

points open to all school users.											
6. Single-Sex Basic Sanitation Facilities **Separate functional male and female restrooms on site.**	**1.60**	**P**	**1.45**	**P**	**1.50**	**P**	**1.60**	**P**	**1.55**	**P**	**1.55**	**P**
7. Basic Handwashing Facilities Girls and boys have soap and water for functional handwashing area	**2.10**	**L**	**1.66**	**L**	**1.70**	**L**	**1.69**	**L**	**1.80**	**L**	**1.66**	**L**
Over-all Mean	**1.65**	**P**	**1.50**	**P**	**1.54**	**P**	**1.61**	**P**	**1.63**	**P**	**1.54**	**P**

Legend: 2.34 – 3.00 – Basic (Access/High), 1.67 – 2.33 - Limited (Access/Average), 1.00 – 1.66- Poor (Access/Low)

The indicators were based on the Sustainable Development Goals (SDG) 4a.1. in determining educational facilities. The presentation of the indicators was validated and approved by the school principal of the three (3) selected elementary schools and other experts.

On Electricity. The school administrators and teachers indicated non-compliance to requirements on electricity. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.50 and 1.40; School -2 administrators and teachers was 1.60 and 1.50; School -3 administrators and teachers was 1.50 and 1.45. There were no regular and readily available sources of power that enable adequate and sustainable use of ICT infrastructure.

On Internet for pedagogical purposes. The school administrators and teachers indicated non-compliance on internet for pedagogical purposes. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.60 and 1.62; School -2 administrators and teachers was 1.58 and 1.50; School -3 administrators and teachers was 1.64 and 1.53. Internet was not available for enhancing teaching and learning and is accessible by pupils.

On computer for pedagogical purposes. The school administrators and teachers indicated non-compliance on computer for pedagogical purposes. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.45 and 1.40; School -2 administrators and teachers was 1.30 and 1.60; School -3 administrators and teachers was 1.40 and 1.65. A problem arisen over the utilization of computers to facilitate course delivery or meet the requirements of autonomous teaching and learning.

On adapted infrastructure and materials for students with disabilities. The school administrators and teachers indicated non-compliance on adapted infrastructure and materials for students with disabilities. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.66 and 1.50; School -2 administrators and teachers was 1.64 and 1.60; School -3 administrators and teachers was 1.50 and 1.40. School educational facilities and learning materials were not available to all users, irrespective of varying handicap.

On basic drinking water. The school administrators and teachers indicated different views from limited compliance to non-compliance on basic drinking water. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.67 and 1.50; School -2 administrators and teachers was 1.45 and 1.80; School -3 administrators and teachers was 2.00 and 1.55. There is an absence of a practical source of potable water on or in close proximity to the premises, as well as water stations that were easily accessible to all users during school hours.

On Single-Sex Basic Sanitation Facilities. The school administrators and teachers indicated non-compliance on Single-Sex Basic Sanitation Facilities. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 1.60 and 1.45; School -2 administrators and teachers was 1.50 and 1.60; School -3 administrators and teachers was 1.55 and 1.55. Functional sanitary facilities specifically designated for males and females were required to be present either on the premises or in close proximity.

On Basic Handwashing Facilities. The school administrators and teachers indicated limited compliance on Basic Handwashing Facilities. This was shown on the mean scores of school administrators and teachers from the three schools: School -1 administrators and teachers was 2.10 and 1.66; School -2 administrators and teachers was 1.70 and 1.69; School -3 administrators and teachers was 1.80 and 1.66. There is a limited accessible hand washing infrastructure, equipped with soap and water, provided for both male and female.

Results indicated non-compliance of the school with educational facilities SDG 4.a.1 in terms of: Electricity, Internet for pedagogical use, Computer for pedagogical use, Adapted infrastructure and materials for students with disabilities, Basic Drinking Water, Single-Sex Basic Sanitation Facilities; and limited compliance on Basic Hand Washing Facilities.

The article discusses the implementation of the Sustainable Development Goals (also known as the SDGs) and the interconnections between these goals. The discussion on SDG 4 - Quality education (2023) highlights the need to assess and expedite progress towards achieving SDG 4. It also emphasizes the importance of education in relation to the broader goals of the 2030 Agenda. Significant advancements have been achieved, presenting favorable prospects for enhanced unity and collaborations in the realm of delivering high-caliber education and continuous learning possibilities for every individual. However, the circumstances were also evolving due to advancements in technology and the need for new skills. Additionally, environmental deterioration and other obstacles to accessing education persist, resulting in limited educational achievements.

3.   **What issues and challenges are encountered by the school in managing school plant and facilities?**

An urgent issue in the Philippine education system is the unequal allocation of educational resources, ranging from teaching materials and school supplies to larger concerns such as digital technology, education programs, teacher training, and educational buildings.

The inadequate infrastructure in several rural locations, as witnessed by educators in District III, City of Bacoor Cavite, hinders students' educational experiences. The presence of inadequate classrooms, absence of libraries, and obsolete facilities contribute to an environment that hinders efficient teaching and learning. Students residing in rural areas were disproportionately impacted due to inadequate access to essential resources such as power and clean water.

For the issues and challenges, the school administrators were interviewed and requested for their honest comments in managing school plant and facilities. The school principals also requested that they direct comments from the school administrators and teachers since they observe and receive complaints from students, and parents.

The following issues and challenges were solicited through focus group discussion with school administrators and teachers from the three (3) selected elementary schools in District III, City of Bacoor Cavite.

The discussion centered on the indicators in the survey instrument used in the assessment of educational facilities. For clarification, for the purpose of this study the term school plant and facilities were referred to educational facilities. This will help maintain alignment of the whole study on educational facilities and its compliance with SDG 4.a.1.

There was commonality in the responses on each indicator, thus the researcher included the most common responses for each items and attached the transcript in the appendices.

Table 3

Issues and Challenges encountered by the school in managing school plant and facilities.

Educational Facilities	Issues	Challenges
Electricity	Power interruption	Over consumption Overload
	Safety concern	Some of the electric wirings are old
	Short circuit in some buildings	Lack of fund to change the wirings
	Limited supply of electricity	Increasing monthly bill
	Use of generator from 7:00 to 12 noon	Electricity not sufficient
Internet for pedagogical	Slow connection	No enough budget for internet
	Internet is limited to offices Password not open for all	Restricted wifi connectivity
	Connection not stable	Bandwidth limitation
	Unstable internet access	No sufficient internet access

	Limited time allowed	Can use only from 7 am to 12nn because of bandwidth limitation
	Use mobile data only	Limited access of internet for teaching and learning
	Not everyone can access	Internet are for office use only
	Due to power interruption, internet is not available	Electricity is also a problem for internet connection
Computer for pedagogical purposes	Ratio of computer per student not sufficient	Insufficient number of computers for the learner
	Limited number of computer	Limited student access to computers
	Technical problem with computers	No available technician around
	No internet connection to access different resources	Low power supply and internet
	Desktop are not wifi ready	Limited internet access
	Scheduled use of computers	No available computers for the whole class
	Computers not functional	Power shortage causes problem with computers
Adapted infrastructure and materials for students with disabilities	Lacks classrooms for large number of enrollees	Overcrowding resulted in insufficient classroom space
	No computer room	Lack of rooms due number of enrolled students
	Furniture/table are old	No budget for repair or to buy new furniture
	Room use as stock room	Rooms lack chairs and table, use as storage
	Lack facilities to cater all pupils including those with disabilities	Lack utility men to maintain cleanliness
	Classrooms and other areas are not safe for use	Need repairs of rooms and equipment
	Lack space for activities	No budget for infrastructure
	Shortage of rooms	No budget for additional room
	Lacks building maintenance	Commitment in the management of buildings
	School facilities and learning materials not conducive to learning	Liquidate the budget properly
	No provision for students with disabilities	Lacks budget for infrastructure and learning materials for students with disabilities
	Conduct regular maintenance of the school	Allocate more fund
	Facilities not safe for the students, especially the toilets and handwashing area	Lack assistance from the local government.
Basic Drinking Water	Lack water supply	No regular supply of water
	Water came from deep well	No budget for water
	Water supply interruption	No water quality maintenance
	No access for free drinking water	No available drinking water
	We buy drinking water	Lacks clean water supply
	No filter for the faucet	No budget for the filter
	Maynilad and pump water not safe for drinking	Water pump is for cleaning not drinking water
Single-sex basic sanitation facilities	Not enough to cater all pupils	Lacks toilet facilities
	Restrooms not enough for the number of students	Clogged restroom
	Dirty restroom	Lacks water supply for cleaning the restroom

	Foul odor	No water available
	Very limited number of functional restroom	No regular maintenance of restroom
	Communal CR	No budget for addition CR
	Toilet can't be flush, clogged	Plumbing issues
Basic Handwashing Facilities	Lack discipline in the use of washing area	Have no roofs for protection
	Dirty handwashing area	Water supply not available
	Soap is not always available	Lacks budget for supplies
	Unannounced water interruption	Poor water supply
	Number of handwashing area is not sufficient for the students	Overcrowded
	Pump is not functioning	Power shortage stops the water supply or the pump

According to the school administrators and teachers, on the issues and challenges they included all the comments of teachers, parents, and students that they have in their records. They also affirmed that the said situations were real and observed by all stakeholders. However, due to school budget limitations these situations were reported and on the process of improvement.

The common issues raised by the school administrators and teachers on school plant and facilities are the following: Electricity (Limited supply of electricity, Power Interruption, and Use of generator from 7 am to 12 noon); Internet for pedagogical purposes (Slow and unstable connection and Internet is limited to offices); Computer for pedagogical purposes (Ratio of computer per student not sufficient, Technical problems, and Computers not functional); Modified infrastructure and resources for kids with impairments (Lacks classrooms for large number of enrollees, Lack facilities to cater all pupils including those with disabilities, Classroom not safe for use, and Lacks building maintenance); Basic drinking water (Lack water supply, Water came from deep well, and Maynilad and pump water not safe for drinking); Single-sex sanitation facilities (Restrooms not enough for the number of students, Dirty restroom, Communal CR, and Very limited functional restroom); and Basic handwashing facilities (Dirty handwashing area, Soap is not always available, and Unannounced water interruption).

The common challenges raised by the school administrators on school plant and facilities are the following: Electricity (Old electric wiring, Increasing monthly bill, Electricity not sufficient, and Over consumption); Internet for pedagogical purposes (Restricted wifi connectivity, Internet were for office use only, and Bandwidth limitation); Computer for pedagogical purposes (Insufficient number of computers for the learner and No available technician around); Adapted infrastructure and materials for students with disabilities (Overcrowding resulted in insufficient classroom space, No budget for additional room, and Lacks budget for facilities also for learning resources aimed at pupils having incapacities); basic drinking water (No regular supply of water, No water quality maintenance, No budget for filter, and Water pump is for cleaning not for drinking); Single-sex sanitation facilities (Lacks water supply for cleaning the restroom, No budget for additional restroom, Plumbing issues, and No regular maintenance for restroom); Basic handwashing facilities (Water supply not available, Lacks budget for supplies, Overcrowded, and Power shortage stops the water supply or the pump).

Based on the enumerated issues and challenges, the school administrators faced difficulty in managing educational facilities mainly because of lack of budget and assistance from the Department and other local and national agencies.

The academic prospects described in the study research not just address current concerns and difficulties, but also take a proactive approach in developing a strong and flexible education system that can drive the nation's long-term growth and progress.

4. Based from the findings of the study, what educational facilities development plan can be proposed?

The results indicated non-compliance of the school educational facilities with SDG 4.a.1 in all the indicators: Electricity, Internet for pedagogical use, Computer for pedagogical use, Adapted infrastructure and materials for students with disabilities, Basic Drinking Water, Single-Sex Basic Sanitation Facilities; and limited compliance on Basic Hand Washing Facilities.

Insufficient supply of electrical energy, internet, computers or laptops, supply of water, lacking number of toilet and hand-washing facilities, and not performing the sanitation habit or hygiene continue important donors to non-compliance of the schools in the SDG4a.1. (Sustainability Development Goals)

Table 4

Educational Facilities Development Plan

Key Areas	Development Needs	Plan of Action	Timeline	Source of Fund	Sustainability Plan
Insufficient Electricity Un-energized schools	24 hours supply of electricity	Installation of electricity that is sufficient for educational purposes	Immediate need	Coordination with DPWH DepEd Local Government Units (LGU	Track energy generation, consumption, and system performance with monitoring systems.
Limited Internet access	Provide sufficient internet access	Project: Community e-center	Year-round	Public-Private Assistance The funds will be allocated for the expenses related to internet connection, electricity, supplies, as well as repair and maintenance. DepED Memorandum Numbers 247, issued in 2006, and 473, issued in 2009	Use public-private partnerships to fund and implement sustainable internet access projects. Support government policies that expand internet access.
Limited Computer for pedagogical purposes	Improve ratio of computer per student Functionality of computers	Project: The Local School Board and the PTCA Alumni Association collaborate to form the Local Adopt-A-School Program. New E-Classroom Packages Follow-up appropriations from DepEd Computerization Program	Year-round	Public-Private Assistance DepEd Computerization Program	Collaborate with private companies to sponsor or donate computers and technology infrastructure. Establish a routine maintenance schedule to keep computers in optimal condition.
Lacks infrastructure and materials for students with	Increase number of classrooms	Request for additional academic classrooms through DepEd school	Year-round based on the number of enrollees	Coordinate with DPWH DepEd Local Government	Assess and update the sustainability plan as requirements and resources change.

| disabilities | Provide learning spaces for students with disabilities | building program

Submit records of schoolrooms requiring significant repairs as indicated by EBEIS, NSBI, and/or OUA/EFD surveys. | | Units (LGU | |
|---|---|---|---|---|---|
| No available supply basic drinking water | Ideal Water Supply System

Safe and adequate water supply | Implementation of Section 902 of the Code with the following guideline:

The most recent authorized National Standards for Drinking Water specify that water for drinking sourced from meteoric, the outside, or subsurface reservoirs must adhere to precise standards regarding its quality. | Immediate need | Request assistance from Local Government Unit | Collaborate with local governments on water supply regulations and permits. |
| Lacks single-sex basic sanitation facilities | Enhancing the availability and utilization of infrastructure for water and sanitation | Installation of toilet with adequate supply of water

Janitors to regularly maintain the cleanliness of the restroom | Year-round

Regular activities | DPWH DepEd Local Government Units (LGU | Collaborate with local organizations, NGOs, or businesses to fund and support sanitation facility projects.

Seek partnerships for ongoing preservation and community engagement plans. |
| Poor basic handwashing facilities | Monitoring of the existing handwashing facilities with adequate supply of water and hygiene items | Regular maintenance of handwashing facilities and hygiene items | Year-round

Regular activities | DPWH DepEd Local Government Units (LGU) WASH | Secure budget allocations for the construction, maintenance, and promotion of these facilities. Engage with local communities to extend handwashing awareness beyond government offices. |

The matter is exacerbated by additional issues, such as a lack of funding for: (a) the implementation of toilets and hand washing stations and (b)installation of an adequate water supply system and provision of sanitary products for the school. Additional contributing variables encompass the absence of operational and maintenance measures to guarantee the cleanliness and appropriateness of facilities for ongoing utilization.

Implementing educational facilities development plan was highly recommended. An educational facilities development plan is a detailed plan to attain certain targets within a set timeframe. This can be part of the school's curriculum.

Conclusion

Based on the findings of the study, the following conclusions were made:

1. The school administrators and teachers indicated limited access of electricity, computer, and basic hand washing. Both the school administrators and teachers agreed on the poor internet access and number of classrooms; however, the school administrators indicated limited or average level while the teachers indicated poor level on the service of basic drinking water, and school safe learning facilities.

2. Insufficient access to electricity, reliable internet, and essential technology, combined with inadequate water supply, inadequate bathroom facilities, and a lack of emphasis on hygiene practices, were all significant factors that hinder compliance of schools with the Sustainability Development Goals (SDG4a.1).

3. The common challenges raised by the school administrators on school plant and facilities were the following: Electricity (Old electric wiring, Increasing monthly bill, Electricity not sufficient, and Over consumption); Internet for pedagogical purposes (Restricted wifi connectivity, Internet are for office use only, and Bandwidth limitation); Computer for pedagogical purposes (Insufficient number of computers for the learner and No available technician around); Adapted infrastructure and materials for students with disabilities (Overcrowding resulted in insufficient classroom space, No budget for additional room, and Lacks budget for infrastructure and learning materials for students with disabilities); Basic drinking water (No regular supply of water, No water quality maintenance, No budget for filter, and Water pump is for cleaning not for drinking); Single-sex sanitation facilities (Lacks water supply for cleaning the restroom, No budget for additional restroom, Plumbing issues, and No regular maintenance for restroom); Basic handwashing facilities (Water supply not available, Lacks budget for supplies, Overcrowded, and Power shortage stops the water supply or the pump). Based from the enumerated issues and challenges, the school administrators faced difficulty in managing educational facilities mainly because of lack of budget and assistance from the Department and other local and national agencies.

4. The paper crafted and proposed educational facilities development plan based on the findings of the study.

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